LAUNCH PACKET

WEBB
SPACE TELESCOPE

Welcome to your virtual

LAUNCH PACKET!

In this packet, you will find everything you need to participate in the historic launch of NASA's Webb Space Telescope, a partnership led by NASA with the European Space Agency (ESA) and the Canadian Space Agency.

About the

WEBB MISSION

Webb will study how the early universe evolved into what we see today.

Download this poster for your home mission control.

WHAT YOU NEED TO KNOW

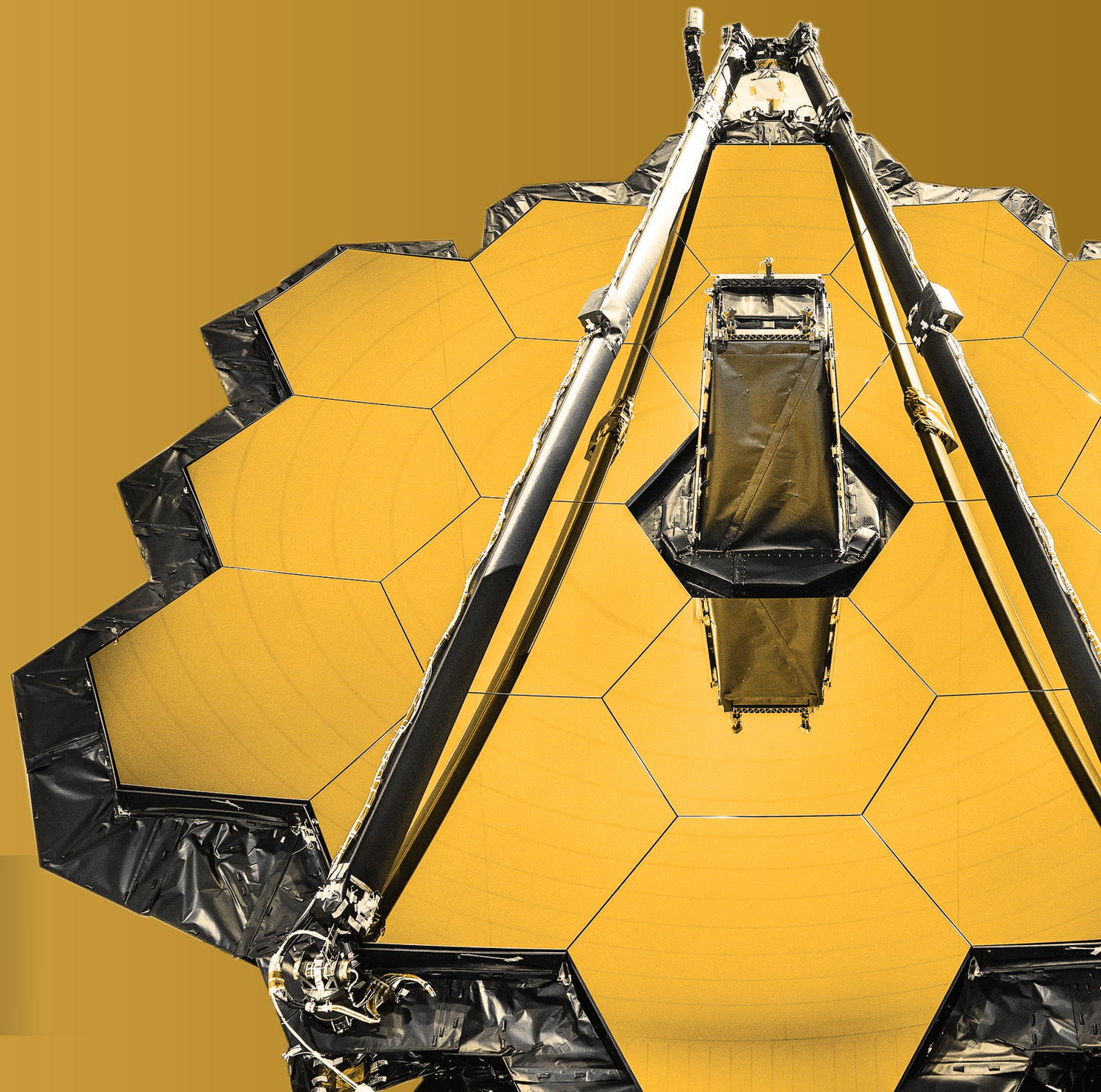
JOIN US ONLINE!

Launch Saturday, December 25
7:20 am ET / 9:20 am Kourou

NASA Channels:

NASA TV
NASA.gov/live
YouTube.com/NASA
ustream.tv/NASAWebb

WATCH THE LAUNCH BROADCAST



Webb Space Telescope

QUICK FACTS

MAIN JOB
The Webb observatory is NASA's revolutionary flagship mission to seek the light from the first galaxies in the early universe, and to explore our own solar system, as well as nearby planets orbiting other stars, called exoplanets.

NUMBER OF INSTRUMENTS
1. Near-Infrared Camera (NIRCam)
2. Near-Infrared Spectrograph (NIRSpec)
3. Near-Infrared Slitless Spectrograph/Fine Guidance Sensor (NIRISS/FGS)
4. Mid-Infrared Instrument (MIRI)

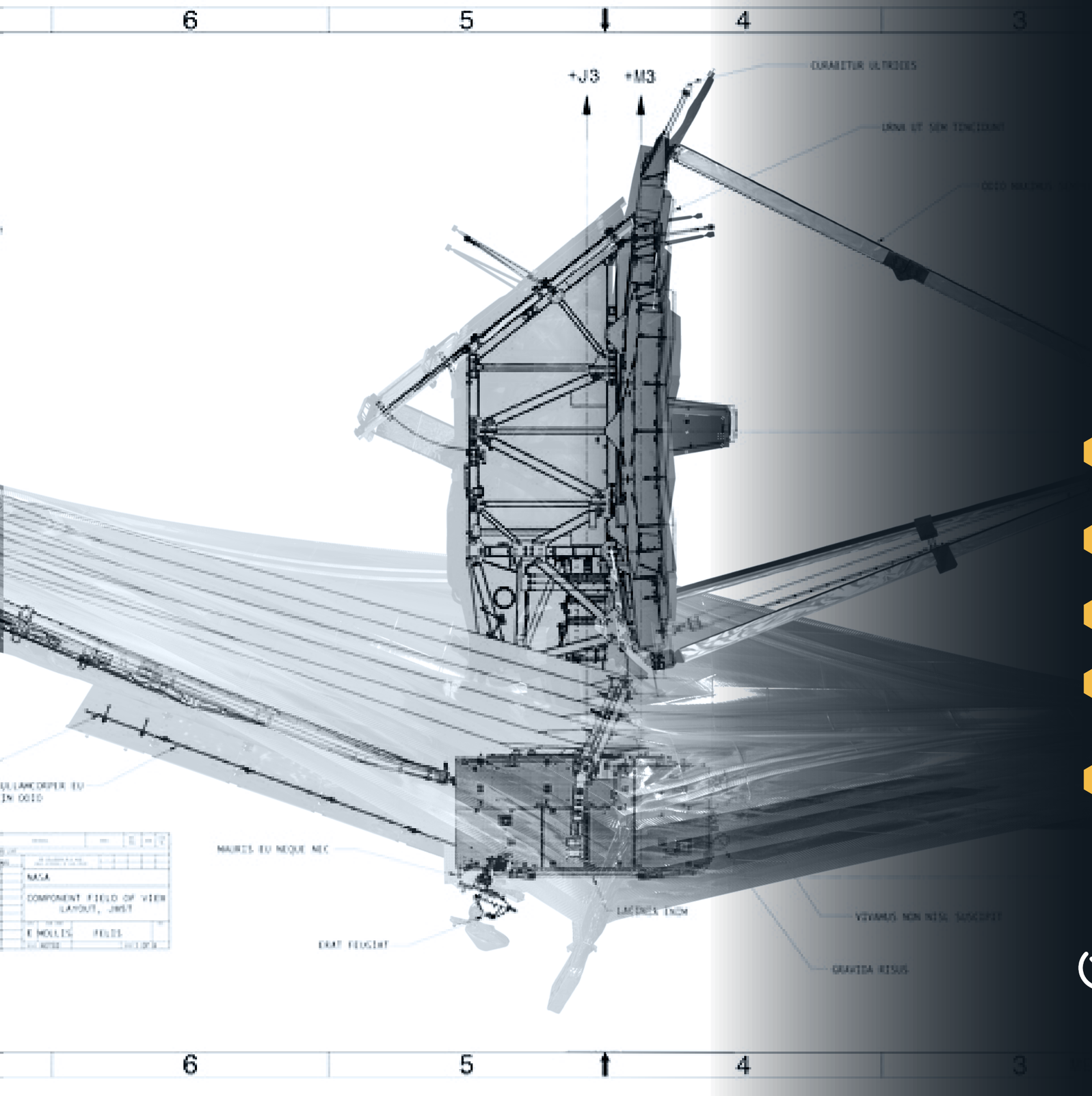
SIZE
The primary mirror is over 21 feet (6.5 meters) in diameter. **The sunshield** is about 69.5 feet x 46.5 feet (about 21 meters x 14 meters), comparable to a tennis court.

WEIGHT
Approximately 13,700 pounds

OPERATING TEMPERATURE
-370 degrees Fahrenheit (Below 60 kelvins)

Follow us @NASAWebb

and @NASAWebbTelescope



5 THINGS TO KNOW

about the Webb Mission

- Webb's unprecedented sensitivity to infrared light will help astronomers understand how galaxies assemble over billions of years.
- Webb will see through dust clouds, where stars and planetary systems are born.
- In addition to learning about our own solar system, Webb will study atmospheres of planets orbiting other stars.
- Webb will orbit the Sun at the second Lagrange point, called L2, which is located one million miles from Earth.
- Webb's sunshield is the size of a tennis court. It protects the sensitive equipment by creating a difference in temperature between the hot and cold sides of the spacecraft of almost 600 degrees Fahrenheit!

Mission Site Countdown

MISSION QUICK FACTS

LAUNCH
December 25

LAUNCH LOCATION
French Guiana

ORBIT
Second Lagrange point, or L2

MISSION DURATION
5-1/2 to 10 years

TRAVEL DISTANCE
1 million miles (1.5 million kilometers) from Earth

DOWNLOAD FULL MISSION FACT SHEET

Grab Your

VIRTUAL PASSPORT!

If you submitted your name to the ***"Unfold the Universe"*** campaign, your flight is now boarding!

Register Here **as a NASA virtual guest to receive mission updates in your inbox and a stamp following launch for your virtual guest passport.**

#UnfoldTheUniverse

Users on all social networks are encouraged to use the hashtag #UnfoldTheUniverse, #NASAWebb, and #NASASocial.

You can also track Webb's journey on social media. Follow these accounts for the latest:

Twitter

@NASA, @NASAWebb, @ESA_Webb, @CSA_ASC, @SpaceTelescope

Facebook

/NASA, /NASAWebb, /EuropeanSpaceAgency, /CanadianSpaceAgency, /STScI

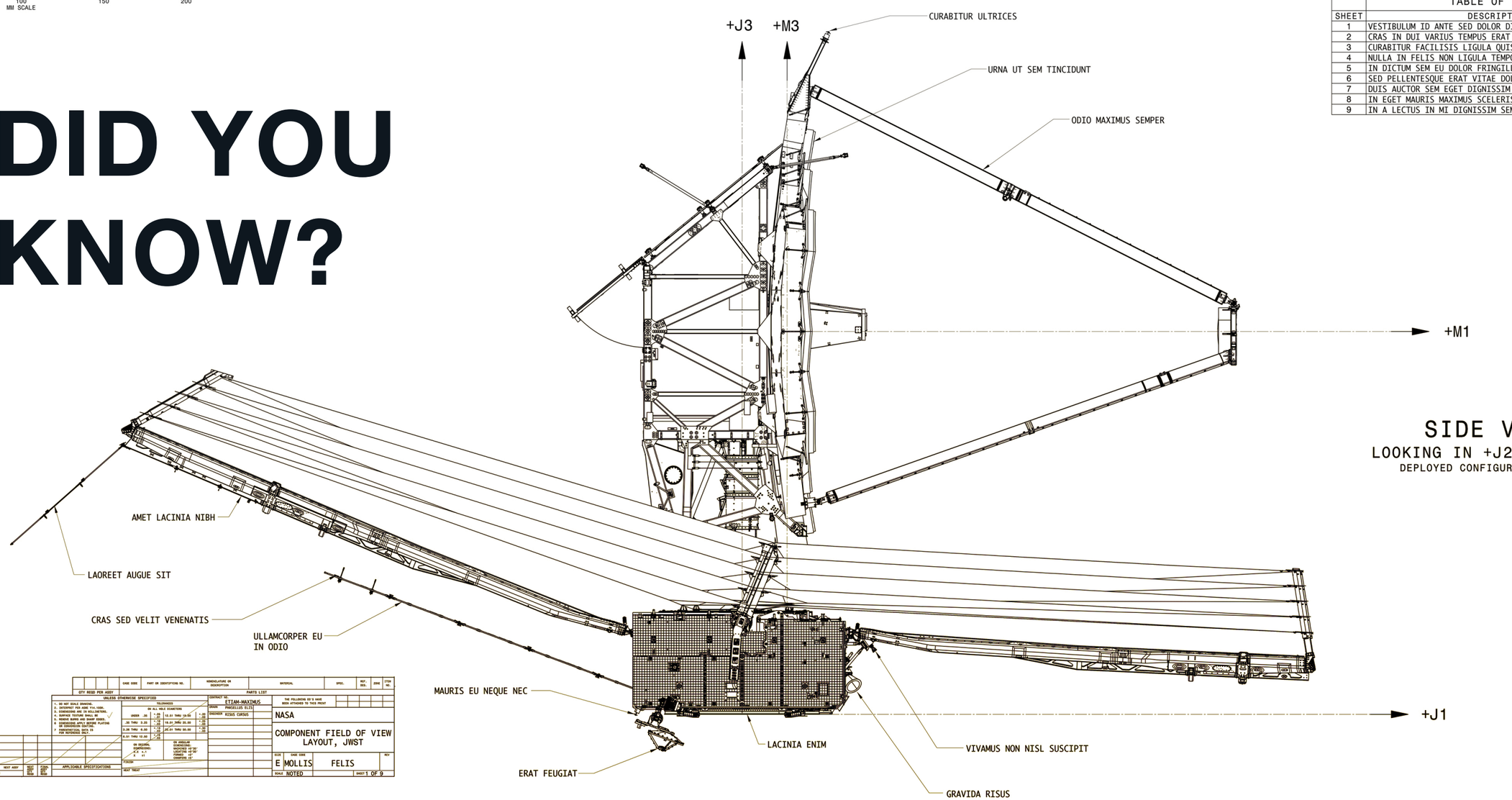
Instagram

@NASA, @EuropeanSpaceAgency, CanadianSpaceAgency, @Space_Telescopes

EXPERIENCE THE VIRTUAL WEBB PLATFORM

DID YOU KNOW?

	TABLE OF CONTENTS
SHEET	DESCRIPTION
1	VESTIBULUM ID ANTE SED DOLOR DICTUM IMPERDIET COMMODO
2	CRAS IN DUI VARIUS TEMPUS ERAT IN VESTIBULUM EST
3	CURABITUR FACILISIS LIGULA QUIS PELLENTESQUE
4	NULLA IN FELIS NON LIGULA TEMPOR BLANDIT A EU EX
5	IN DICTUM SEM EU DOLOR FRINGILLA ET EGESTAS LACUS
6	SED PELLENTESQUE ERAT VITAE DOLOR VULPUTATE ULTRICES
7	DUIS AUCTOR SEM EGET DIGNISSIM SODALES
8	IN EGET MAURIS MAXIMUS SCELERISQUE URNA AT TINCIDUNT
9	IN A LECTUS IN MI DIGNISSIM SEMPER EU NON SEM



SIDE VIEW
LOOKING IN +J2 DIRECTION
DEPLOYED CONFIGURATION SHOWN

THIRD ANGLE PROJECTION

TOLERANCES - MILLIMETERS
SURFACE ROUGHNESS ON ALL MACHINE SURFACES 3.2 MICROMETERS (125 MICROINCHES)
ON ALL HOLE DIAMETERS

UNDER 0.30	+0.10 -0.00	10.01 THRU 18.00	+0.20 -0.00
0.30 THRU 2.00	+0.15 -0.00	18.01 THRU 30.00	+0.25 -0.00
2.01 THRU 6.00	+0.20 -0.00	30.01 THRU 50.0	+0.30 -0.00
6.01 THRU 10.00	+0.25 -0.00	OVER 50.01	+0.5 -0.0

ON DECIMAL DIMENSIONS
X ± .25
X.X ± .10
X.XX ± 0.13
X.XXX ±0.5

ON ANGULAR DIMENSIONS
LOCATED .030"
LOCATED .030"
FORMED 45°
CHAMFERS 45°

UNLESS OTHERWISE SPECIFIED
1. DO NOT SCALE DRAWING
2. DISCREPCY PER ASME Y14.100M.
3. DIMENSIONS ARE IN MILLIMETERS.
4. SURFACE TEXTURE SHALL BE
5. REMOVE BURRS AND SHARP EDGES.
6. FINISH PER MIL-STD-XXXX PLATING OR CONVERSION COATING
7. PARENTHETICAL DATA IS FOR REFERENCE ONLY

TOLERANCES ON ALL HOLE DIAMETERS			
UNDER .10	+.05 -.00	10.01 THRU 19.00	+.08 -.00
.10 THRU 3.35	+.10 -.00	19.01 THRU 25.00	+.10 -.00
3.36 THRU 6.50	+.15 -.00	25.01 THRU 50.00	+.20 -.00
6.51 THRU 10.00	+.20 -.00		

ON DECIMAL DIMENSIONS
X ±1
X.X ±.1
X.XX ±.01
X.XXX ±.005

ON ANGULAR DIMENSIONS
MACHINED ±0°30'
BENT ±1°
FORMED ±2°
CHAMFERS 45°

FINISH
HEAT TREAT

CONTRACT NO. ETLAM-MAXIMUS
DRAWN PHASELUS ELIS
ENGINEER RISUS CURSUS
THE FOLLOWING ED'S HAVE BEEN ATTACHED TO THIS PRINT

NASA

COMPONENT FIELD OF VIEW LAYOUT, JWST

SIZE E | CAGE CODE | MOLLIS FELIS | REV
SCALE NOTED | SHEET 1 OF 9

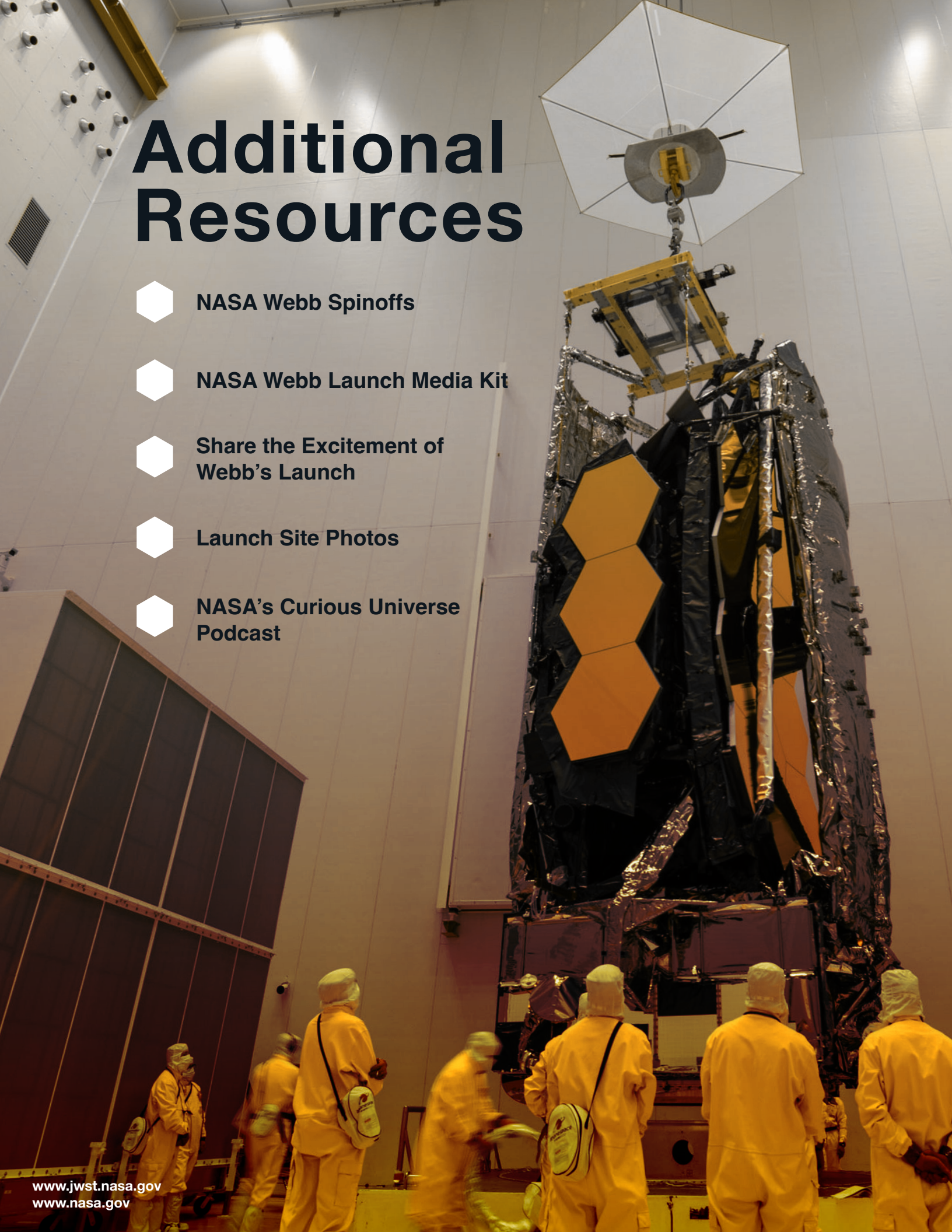
QTY REQD PER ASSY	CAGE CODE	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPEC.	REF. DES.	ZONE	ITEM NO.
PARTS LIST								

JWST						
USED ON						
APPLICATION	DO NO.	NEXT ASSY	NEXT ASSY	USED ON	USED ON	

APPLICABLE SPECIFICATIONS

Several new technologies were developed during the development of Webb, including innovative technology spinoffs that have improved life on Earth, such as advances in eye surgery and better diagnoses of eye diseases.

MISSION FAQS



Additional Resources

- NASA Webb Spinoffs
- NASA Webb Launch Media Kit
- Share the Excitement of Webb's Launch
- Launch Site Photos
- NASA's Curious Universe Podcast

www.jwst.nasa.gov
www.nasa.gov